

**A POWER SYSTEM TO TRANSFER POWER BETWEEN A PLURALITY OF
POWER SOURCES**

Abstract

5 A power system used for transferring power between a plurality of power
sources is provided. A power system according to the present invention is comprised of a
plurality of power sources, wherein each source includes a pair of terminals. The power
system is further comprised of a power converter, including a pair of switches for each one of
the plurality of power sources. Each of these switches are connected to the respective pairs
of terminals for each source. Each switch further includes an associated diode, and each
10 switch pair includes a common node. The power converter further includes a plurality of
inductors numbering one less than the number of power sources, wherein each inductor is
connected across two of the common nodes. The power converter further includes a control
unit configured to actuate the switches in accordance with, and to carry out, one of a plurality
of modes of operation.

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